

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A light-emitting diode having a light-emitting element fixed to a leadframe with a conductive adhesive material, the light-emitting element having a semiconductor layer including a light-emitting layer laid on a first surface of a translucent substrate, of which a second surface facing away from the first surface is used as a light emission observation surface,

wherein a side surface of the semiconductor layer is an inclined surface inclined relative to the first surface, and an angle between a normal to the inclined surface and a crystal surface on which the light-emitting layer grows is equal to an angle at which light emitted by the light-emitting layer is totally reflected toward the translucent substrate, and

wherein the semiconductor layer has a first-conductivity-type semiconductor layer and a second-conductivity-type semiconductor layer formed by laying a first-conductivity-type compound semiconductor and a second-conductivity-type compound semiconductor in this order from a translucent substrate side so that the first-conductivity-type semiconductor layer and the second-conductivity-type semiconductor layer are adjacent to each other with the light-emitting layer sandwiched in between, with an insulating member filling an opening formed in the second-conductivity-type semiconductor layer, with a vertical hole formed above the opening so as to penetrate the translucent substrate and the first-conductivity-type semiconductor layer, and with a conductive material formed along an inner wall surface of the vertical wall so as to conduct to the first-conductivity-type semiconductor layer.

2. (Currently Amended) ~~The light-emitting diode of claim 1,~~ A light-emitting diode having

a light-emitting element fixed to a leadframe with a conductive adhesive material, the light-emitting element having a semiconductor layer including a light-emitting layer laid on a first surface of a translucent substrate, of which a second surface facing away from the first surface is used as a light emission observation surface,

wherein a side surface of the semiconductor layer is an inclined surface inclined relative to the first surface, and an angle between a normal to the inclined surface and a crystal surface on which the light-emitting layer grows is equal to an angle at which light emitted by the light-emitting layer is totally reflected toward the translucent substrate, and

wherein the semiconductor layer has a first-conductivity-type semiconductor layer and a second-conductivity-type semiconductor layer formed by laying a first-conductivity-type compound semiconductor and a second-conductivity-type compound semiconductor in this order from a translucent substrate side so that the first-conductivity-type semiconductor layer and the second-conductivity-type semiconductor layer are adjacent to each other with the light-emitting layer sandwiched in between, with a vertical hole formed so deep as to penetrate the translucent substrate and reach the first-conductivity-type semiconductor layer but not to reach the second-conductivity-type semiconductor layer, [[and]] with a conductive material formed along the vertical hole so as to conduct to the first-conductivity-type semiconductor layer, and with a pad electrode closing the vertical hole and formed on part of the second surface of the translucent substrate so as to conduct to the conductive material.

3. (Cancelled)

4. (Currently Amended) The light-emitting diode of claim [[2]] 1, wherein the vertical hole

is closed by a pad electrode formed on part of the second surface of the translucent substrate so as to conduct to the conductive material.

5. (Currently Amended) The light-emitting diode of claim 1 or 2, wherein the vertical hole is increasingly small with increasing depth.

6. (Currently Amended) The light-emitting diode of claim 1 or 2, wherein the conductive material is translucent.

7. (Currently Amended) The light-emitting diode of claim 1 or 2, wherein the angle is in a range from 40° to 50°.

8. (Currently Amended) The light-emitting diode of claim 1 or 2, wherein the inclined surface is coated with an insulating film.

9. (Currently Amended) The light-emitting diode of claim 1 or 2, wherein the semiconductor layer is formed of a gallium nitride compound.